ABSTRACT

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]]]] A new architecture and operational techniques for supporting high quality live and on-demand streaming multimedia on a data network. By using *Helper* machines inside the network as data forwarding, caching, and buffering agents, and by forming meshes among *Helper* machines, advantages of homogeneous, synchronous multicast transmission and of heterogeneous, asynchronous reception are achieved. The architecture provides essentially transparently support to the receivers for near-zero start-up latency, improved playback quality, improved CR-like operations. These are achieved while reducing network and server load compared to today's multimedia networking techniques.